

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 01067865  
PUBLICATION DATE : 14-03-89

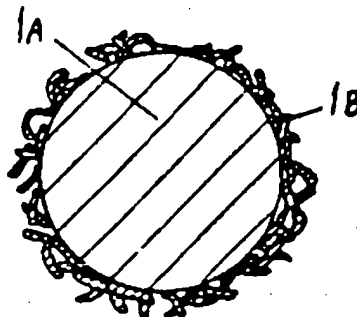
APPLICATION DATE : 08-09-87  
APPLICATION NUMBER : 62224303

APPLICANT : MATSUSHITA ELECTRIC IND CO LTD;

INVENTOR : KOBAYASHI SHIGEO;

INT.CL. : H01M 4/06 H01M 4/62

TITLE : CELL USING MANGANESE DIOXIDE  
AS ACTIVE MATERIAL



ABSTRACT : PURPOSE: To obtain a cell with high discharge utilization factor and high capacity by fixing a carbon material with a specific fiber shape on the surfaces of manganese dioxide grains.

CONSTITUTION: A carbon material 1B with a fiber shape of the diameter 0.1~1.0 $\mu$ m and the length 10~100 $\mu$ m is fixed on the surfaces of manganese dioxide grains 1A. The fiber-shaped graphite 1B is fixed on the surfaces of manganese dioxide grains 1A, next fiber-shaped graphite 1B is fixed on the fixed graphite 1B, the same fixing is performed in sequence, as a result the fiber carbon 1B forms a three-dimensional network on manganese dioxide grains 1A. If this manganese dioxide with carbon material is used as a positive electrode black mix 1, excellent electron conductivity is obtained, and the efficiency of the carbon material is improved. A cell with high capacity and high positive electrode utilization factor is thereby obtained.

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